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ABSTRACT

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Accelerating Literacy Progress for New School Entrants: The Preschool Literacy Project (Stage 3) in Victoria.

by Bridie Raban, Christine Ure and Gregg Smith

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Accelerating literacy progress for new school entrants: The Preschool Literacy Project (Stage 3) in Victoria. ®

(Refereed paper accepted for A/NZ ARE Conference 1999 Melbourne)

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Abstract

This paper reports Stage 3 of a research project conducted in 40 preschools in Victoria, Australia. During the first stage of this project, preschool teachers were asked about their concerns relating to young children's literacy development. Their responses revealed little access to recent thinking concerning emergent literacy, either through their initial training programs or through subsequent professional development opportunities. Their understandings and beliefs with regard to early literacy rendered them unable to provide for this development in their programs. Stage 2 of this project included these teachers and their assistants in an action research professional development cycle which informed and supported them in reviewing and changing their practice. Stage 3 followed the children from these preschools to the end of their first year in school. Marked improvements were noted in the trajectory of these children's literacy progress when they entered school (N=347) in contrast to those children who had not attended this group of preschools (N=613).

Factors leading to concern

Without literacy in a modern society, individuals are seriously disadvantaged when compared to their literate peers. This experience cannot be over-emphasised in an increasingly print-dominated world. Important aspects of personal, social, and economic development can be hampered by poor levels of literacy. Indeed, social groups and the nations they form may fail to achieve aspirations of quality and security in their world futures (Christie 1990; Luke & Gilbert 1993; Snow *et.al* 1998). As the Australian Language and Literacy Policy (DEET 1991) indicates;

> "(Literacy) is used to develop knowledge and understanding, to achieve personal growth and to function effectively in society". (p9)

Importantly, lack of literacy deprives individuals from accessing the power-base of democracy, leaving them open to more easy manipulation .

Without literacy, formal educational achievement is seriously limited. Students experiencing difficulty reading and writing will have only limited access to the forms of school learning which lead to success in those systems which support schooling (Cambourne 1988). In addition, the meritocracy which arises through advanced training and professional development may be denied this group of young people. Being

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part of a society which values literacy skills, both for their own sake and for the increased life chances they enhance. Street (1995) claims that this places literacy and the individual at the centre of a network of cultural, social, and personal advantages.

Against this backdrop of the increasing significance of literacy in ever-demanding personal, social, economic and cultural terms, the Ministry of Education in the Australian State of Victoria during the 1980s, embarked on a range of reforms. These included the dissemination of professional development programs in literacy and numeracy (BLIPS Basic learning in Primary Schools), along with an Australian federal government funded program (ELIC Early Literacy Inservice Course). These programs were given high priority and primary school practice was informed by these initiatives (Rowe 1987; Rowe & Sykes 1989).

However, later work conducted for the Australian commonwealth government reported by Hill and Russell (1994), indicated that a continuing percentage of students in Australian schools obtained levels of literacy considered inadequate for their grade level. Indeed, they further reported this percetage in the region of 20 - 50 per cent of students in schools serving educationally disadvantaged areas. In addition, Hill and colleagues (1993) in Victoria, and others in America (Kennedy *et al* 1986) found little evidence for the success of early literacy programs, for instance, beyond the second year of schooling. Not only is there a very short length of time to influence students achievements, beyond the third year of schooling such interventions have been found to be counter productive and the gap between achievement levels of different groups of students increases during the subsequent years of schooling (Hill 1995; Rowe & Hill 1996).

As Whitehurst and Lonigan (1998) point out, schools tend to provide an age-related curriculum in which early delays are magnified at each additional step. It is in this way that the gap increases between what children bring to the curriculum and what the curriculum demands as each year passes. Hence we see efforts to support students overcome initial inequalities remaining ineffectual.

Research Context

Towards the end of 1995, the University of Melbourne, in collaboration with the Victorian Department of Education implemented the Early Literacy Research Project (ELRP) which was designed to evaluate the impact of literacy achievement on students most 'at risk' during their first years of schooling (Crevola & Hill in press). This project informed the implementation and development of the Victorian program entitled *Early Years Literacy Program* (DSE 1997; 1998). This intervention was based on the premise, revealed through the work of Slavin and colleagues (1994) in America, that *all* but a very few students (2 per cent) could achieve success with literacy.

The primary schools included in the ELRP were all from designated areas of disadvantage from across the Australian State of Victoria. The Early Years Literacy Program is a program based on a repertoire teaching approaches and is organised around whole class and small group activities, taking place during the literacy block each morning of every school day. This context provided a comparative context for the assessment of students at the end of each of the first three years of schooling.

Early Literacy during the Preschool Period

In parallel with these studies aimed at students during the early school years, a reconception of literacy and literacy learning beyond the confines of the classroom and school were being theorised and explored empirically by many researchers across the world (Clay 1975; Hall 1987; Neuman & Roskos 1992). Much of this work has been noted by Raban (1997) who tracks the devlopment in thinking concerning learning to

read and write as a visual, auditory and motor skill with requirements for readiness, to literacy as social and cultural practice.

What is now evident is that the development of literacy is profoundly social (McLane & Mc Namee 1990) and is being experienced and experimented with throughout children's daily lives. Indeed, the concepts of literacy that young children bring to school will be defined by their experience and understanding of the purposes and functions of literacy in the world that surrounds them. Purcell-Gates (1996) claims that preschoolers who have already begun to construct knowledge about the forms and concepts of, for instance, written English and its alphabetic nature, will begin formal literacy instruction in school with schema for literacy which puts them at an advantage over their peers who have yet to begin this learning.

In a study reported by Vukelich (1994), print was incorporated into children's preschool environment and experience without disturbing the ecology of that context. This increased the children's contact with literacy materials and their engagements with literacy behaviours. In this study the adult interactional style was like that which is experienced in the world outside the preschool, a style where the print-meaning associations were woven naturally into adult-child conversations. Children in this context learned to read significantly more words in context than their peers who experienced the print enriched environment without adult interactions. What is being suggested by this research and that of others (*eg.* Neuman & Roskos 1997) is that a combination of exposure to environmental print and many functional experiences with literate others around this print are known to result in young children making important meaning-making connections, associations believed to be important precursors to conventional reading.

Neuman and Roskos' study (*ibid*) strongly suggests that long before formal instruction takes place, young children use reading and writing behaviours as an integral part of their everyday lives. As a legitimate part of early literacy, participation in authentic writing and reading practices represents an important phase of early literacy learning. These experiences engage children in practicing not only what written language is for, but also how it works. Preschool children also need a variety of experiences that stimulate conceptual and factual knowledge about literacy. Lesiak (1997) gives a fuller review of this research literature.

Genesis of the Preschool Literacy Project

In view of the evidence for the importance and significance of a print enriched preschool environment, mediated by adults, especially for those children who were not experiencing this conventionally in their homes, we were interested to consider this aspect of children's emerging literacy development in relation to that of students in the Early Literacy Research Project. At the time of our involvement with this larger project, primary schools across Victoria had been invited to express interest in the ELRP for the purposes of evaluation. They were required to meet the commitment of a comprehensive, whole school approach to literacy which was defined by a number of design elements (Hill & Crevola 1997), and they were to be serving areas of social, economic and educational disadvantage. This choice of sample was targeted to maximise the progress of students consistently found to be under-achieving during their school careers.

27 schools were chosen to act as trial schools for the ELRP and a further 25 acted as reference schools. Students were assessed for their written and spoken language achievements at the beginning and end of the next three school years, with each new intake increasing the sample across the period of the project. In addition to their ELRP involvement, all these schools were contacted and asked to inform the research team which preschool centres their prep grade students (aged 5 yrs) had attended during the previous year. The majority response from these teachers was that these children had not experienced preschool of any form. However, when pressed for this information, 90 per cent of this group of new school entrants attended some form of preschool provision with 75 per cent of this total cohort attending preschool in the form of sessional kindergarten, a number in excess of 3770 children.

A list of the names of these preschool centres was obtained from the primary schools and out of 236 identified in this way, 152 sent 5 or more students onto an ELRP project school. This smaller number of preschool centres were contacted with a view to them joining the Preschool Literacy Project (PLP), that was planned to run in parallel with the ELRP. Few replies were received to an initial postal contact inviting these preschools to join the PLP. After further telephone discussions and explanations, 40 preschools agreed to join the project. However, it was noted that during these phone calls there were a number of early childhood professionals who rejected the ideas behind the project. They stressed that literacy was not an issue for them or their centre and so they did not wish to be involved in the project. There were a variety of reasons for this response and these have been explored elsewhere (Raban & Ure 1997a). Indeed, Clay (1998) captures this response within a wider framework;

> ... " early childhood educators are in danger of setting literacy aside until children go to school." (p42)

Stages of the Preschool Literacy Project

The Preschool Literacy Project was conceived in three stages across the three years 1996-99. Stage 1 provided an opportunity to gather information concerning these preschool teachers' understandings of early literacy development and the literacy environments they provided in their preschools. Stage 2 involved these preschool professionals in a development program of workshops, goal setting and evaluation. During the final year of the project, in stage 3, these teachers were surveyed again for their understandings of early literacy development in the light of experience of stage 2 of the project. In addition, the cohort of students attending their preschools and others were assessed as part of their involvement with the ELRP at the end of their first year in school.

Stage 1

A survey/questionnaire was designed to establish information concerning these preschool teachers' understandings of early literacy development in relation to home and school practices. They were asked to reflect on their role in this aspect of preschool children's development and the resources and experiences they provided in their preschool rooms. In addition, these teachers were asked if they would allow a follow-up visit to discuss their responses further. As a result, every preschool was visited. These preschools were across the whole of the State of Victoria, in urban and remote regions as well as in the metropolitan area. Teachers and their assistants were interviewed and took the opportunity to expand on their written responses and an inventory was made of their rooms with respect to literacy resources.

The findings of this stage of the project have been discussed elsewhere (Raban & Ure 1997b; 1999). In summary it was clear that this group of preschool professionals expressed overwhelming uncertainty about the role of literacy in their programs. Their initial training and further professional development had not addressed this aspect of children's development in the preschool years. They wanted to know more about how young children became readers and writers and they were interested to know the findings of research in this area. These teachers also voiced uncertainty concerning teaching reading programs in school settings and they were uncertain regarding children's experience during their first year in school. They were also uncertain about their own role in children's early literacy development and were unsure how to advise parents. A common response related to the expectations of parents that they considered these were too high, and that parents may be pushing their young children into reading and writing too early and use developmentally inappropriate methods.

This broad range of responses provided us with the starting points for preparing a program of professional

development which would take place during 1996 - 98. Digests of research literature were compiled. Information from international projects concerning family literacy and the early stages of development was also gathered together. Resources in the form of story books, big books, letter blocks, writers' suitcases, toys and authentic literacy materials like junk mail, telephone directories, order forms, bank slips etc.were collected for the purposes of stimulating workshops and practical ideas.

Stage 2

Stage 2 of the project addressed the professional development needs of this group of preschools and assistants. They were grouped into regional clusters and we travelled to their chosen location at a time to suit their other obligations. Typically, two hours would be spent with each group of teachers. One meeting was conducted towards the end of 1996 and three or four additional meetings were conducted during the course of 1997. The first meeting addressed current understandings of literacy development and what these might look like in practice. We invited these groups of preschool professionals to reflect on their own practice and the environments they provided for the children in their programs. Each member of the groups was given a copy of a book that documented the experience of a Victorian preschool teacher as she introduced literacy into her program (Reynolds 1997).

In addition, everyone received a blank note book to act as a journal for their own use. Before the end of the first session, each group member was required to commit themselves to a goal for their immediate practice. This goal could be as undemanding as they chose. For instance, some teachers decided to bring the print around their room down to the children's level, others chose to introduce literacy materials into the 'home' corner, others decided to place a writing table in their room strategically along with appropriate resources, others again decided to introduce a post box for letter exchanges. The range of goals which this group of teachers decided to set for themselves was impressive. Their suggestions ranged across four main groups:

1. Creating a literate environment in the preschool.
1. Encouraging and supporting children's attempts at writing for themselves.
1. Giving reading and writing a purpose.
1. Creating an awareness of the conventions of print.

Additional visits to these regional groups kept the teachers in touch with new ideas and resources as well as offering opportunities to share their success or otherwise in meeting the goals they had set for themselves. They volunteered examples of children's written responses and discussed reasons why some of their ideas for practice worked and others did not. These sessions were essentially practical in nature and they gave these teachers an opportunity to network and support each other outside the project meetings.

Without exception, these teachers became more aware of their children's knowledge about literacy and their own expectations increased concerning what children could achieve for themselves when literacy resources were made easily available and accessible. Before this project, teachers supported children in writing their name before they went on to the primary school. This typically took place in term 4. During terms 1 - 3, teachers wrote names for children on their drawings. As a result of being included in this project, teachers were encouraging children to write for themselves, for instance, and to talk about their drawings, adding writing of the child's choice.

Teachers were fascinated by children's ability to take ownership of the literacy environment for themselves, suggesting labels, notices, and activities which included literacy naturally. Children took notes as doctors.

the vet, police officers and teachers themselves. They wrote each other messages and parents were encouraged to contribute to this generation of texts. Books were frequently re-read and stories supported by dramatic play, puppets, felt pieces and the like as well as writing. Children were seen to place a prominence on the development of this aspect of their preschool experience.

Stage 2 of the project was completed with a day conference of all the teachers and their assistants joining together to exchange their achievements and to plan for dissemination to other preschool professionals. In excess of 100 items of children's literacy endeavours were collected along with copies of completed teacher journals. This material is currently being categorised and collated to produce an accessible record of achievement (Raban & Ure in prep), firstly for the project teachers and secondly for other preschool professionals who wish to reflect on their own practice in a similar fashion.

Stage 3

The last stage of this project, stage 3, took place towards the end of 1998 and continued into 1999. We took the opportunity to ask this group of preschool teachers similar questions to the ones we asked at the beginning of the project, and we also asked them to reflect on their own experience of the project . These data are still being analysed (Ure & Raban in prep). In addition, we were able to engage with the ELRP team, and with appropriate permissions we were able to access the results of the ELRP students who had been in school for one year. The total cohort we accessed through the ELRP was made up of 960 students. 613 of these students had not attended preschools in the PLP and 347 students had attended preschool whose staff had been involved with the project. It is these data which are the focus of the final section of this paper.

PLP: Early Literacy Progress in School

Eight measures of English language and literacy were obtained after these students had been in primary school for one year. These measures included one measure of oral language (Clay *et al* 1983), six measures of reading and writing (Clay 1993) and the Burt Word Reading Test (NZCER 1981). However, before the results of these measures are reported, mention should be made concerning the distribution of scores of this nature with early readers and writers. Unlike measures of height and weight, scores achieved of language assessment during the early years of schooling are unlikely to be normally distributed (Clay 1991 p204). A closed set of test items like letter naming will see scores cluster round zero at first, moving across the range and clustering around the top score as mastery is achieved. For open-ended assessment tasks like tests of word recognition, for instance, scores will move away from clustering round zero, at different rates, and cumulative learning may achieve a normal distribution after a number of years, but in the first year of schooling this highly unlikely.

Record of Oral Language

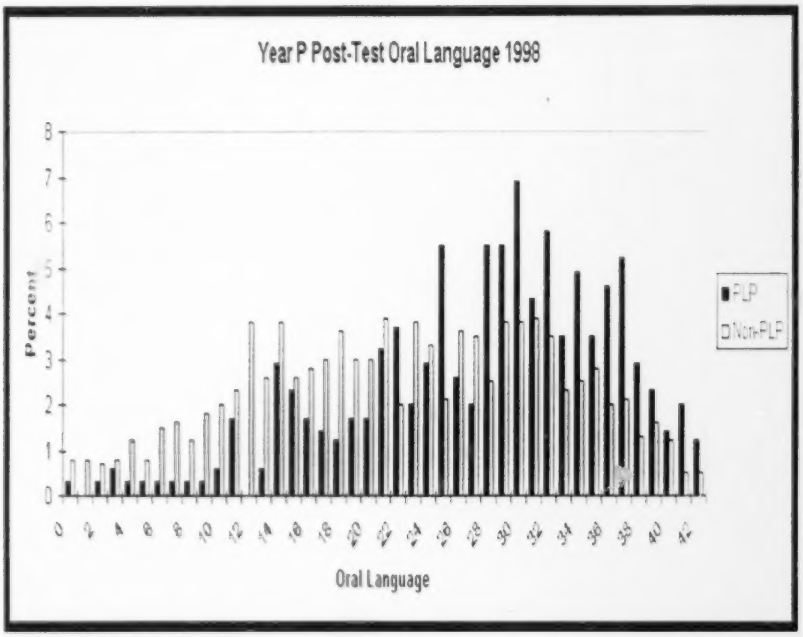
In this assessment of oral language, sentence repetition procedures were used to give information concerning students' mastery of different English language structures. 42 sentences of increasing complexity make up the full assessment. It is claimed by Clay *et al* (1983) that scores of 13 or below reveal only a limited knowledge of oral English language structures and such students will be likely to have difficulty following simple instructions and a story read aloud.

TABLE 1. Comparison of PLP and non-PLP students' Record of Oral Language scores.

ROL score (42)	PLP	non-PLP
13 and below	5.8%	21.9%
> 13	94.2%	78.1%
Mean	27.70	22.19
s.d.	8.52	9.96
Range	0 - 42	0 - 42

Chi-square $p > .0001$

Given the criterion of 13 as the score before which literacy development may well not be possible, the students who attended a PLP preschool were clearly advantaged. This finding is particularly interesting in the light of views of early literacy development that place facility with oral language ahead in a sequence model of development (*eg.* Milne 1997). What we see here is children's early experience of literacy and familiarity with written texts, seen to enhance students' oral language facility rather than the reverse. In addition, what can be seen here in Graph 1 is an accelerated trajectory for students who attended a PLP preschool.



1. Record of Oral Language percentage scores after one year in school

Letter Identification.

Students were assessed for their knowledge of all the letters in the English alphabet, lower case and capital. Letters were presented in random order to counteract any alphabet order knowledge held independently of individual letter identification knowledge. Scores were obtained for any of the following: and alphabet

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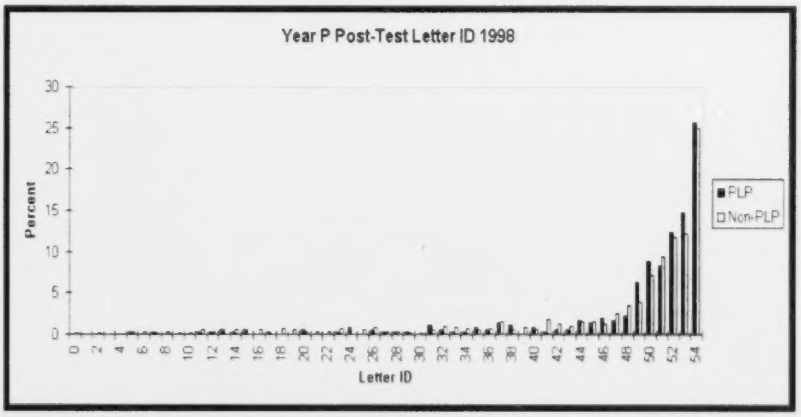
name, an acceptable sound, a word beginning with that letter.

TABLE 2. Comparison of PLP and non-PLP students' Letter Identification scores.

Letter Identification Score (54)	PLP	non-PLP
54	25.6%	25%
> 27	94.5%	91.9%
27 and below	5.5%	8.1%
Mean	48.34	47.04
s.d.	9.14	10.72
Range	5 - 54	0 - 54

Chi-square $p > .0001$

The results of this assessment illustrate a ceiling effect, indicating that letter knowledge is one of the first to be acquired on entry to school and more easily accomplished by most students at the end of their first year in school. This finding is similar to that of Hill and colleagues (1998). However, all the students who had attended a PLP preschool knew more letters in comparison their non-PLP peers. The profile from Graph 2 indicates the PLP students slightly out-performing the students who did not attend a PLP preschool.



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2. Letter Identification percentage scores after one year in school.

Concepts About Print

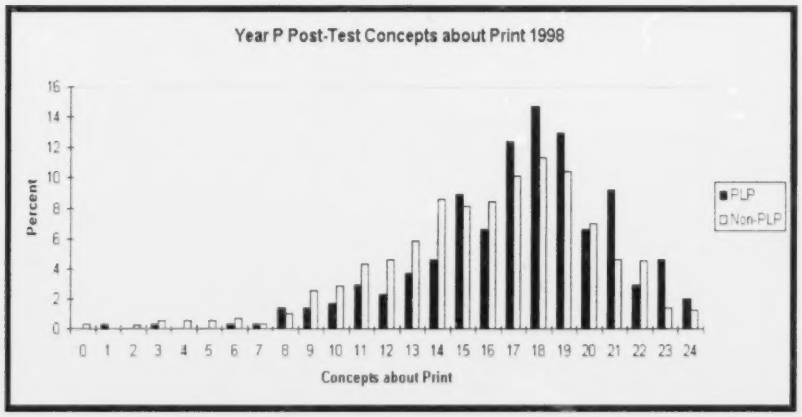
Using an especially prepared picture story book, students were required to demonstrate requested behaviours while the story was read aloud to each student individually. Their responses illustrate a range of concepts they have acquired about print, about the conventions of books and written language generally. For instance, they were asked questions concerning what is being read, the pictures or the text? They were also asked to track the print for directionality and identify individual words and letters and the like.

TABLE 3. Comparison of PLP and non-PLP students' Concepts About Print scores.

Concepts About Print score (24)	PLP	non-PLP
>15	71.8%	59.3%
0 - 15	28.2%	40.7%
24	2%	1.2%
Mean	17.2	16.04
s.d.	3.74	4.11
Range	1 - 24	0 - 24

Chi-square $p > .0001$

After one year in school, the students who had attended PLP preschools demonstrated their increased number of appropriate concepts about print. Once again, Graph 3 illustrates the accelerated trajectory for this group of students who had wide experience of different texts during their preschool year.



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3. Concepts About Print percentage scores after one year in school

Dictation Task.

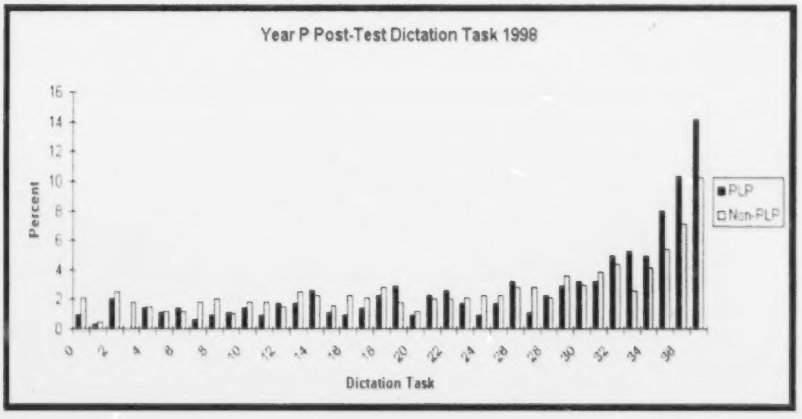
To complete this dictation task, students were required to respond in writing to a sentence spoken aloud. This task gives an indication of students' ability to analyse words and find some way of recording the sounds heard, either as letters, letter clusters, or whole words.

TABLE 4. Comparison of PLP and non-PLP students' Dictation Task scores.

Dictation Task score (37)	PLP	non-PLP
37	14.1%	10.2%
20 - 37	73.3%	63.9%
< 20	26.7%	36.1%
Mean	26.48	23.53
s.d.	10.57	11.35
Range	0 - 37	0 - 37

Chi-square $p > .0001$

Again, the performance on this task demonstrates the students from PLP preschools exhibiting more sophisticated phonological awareness which is on the edge of phonemic awareness and phonic knowledge. Graph 4 also illustrates an accelerated trajectory for this group of students.



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4. Dictation Task percentage scores after one year in school.

Word Test

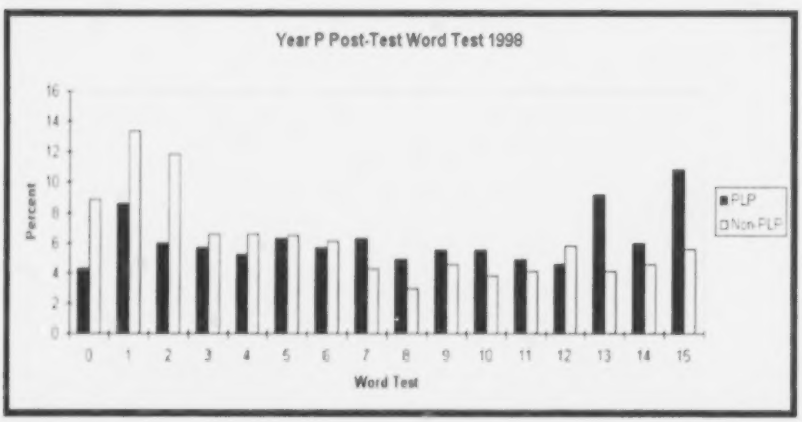
This word test differs from a standardised word test (eg. Burt NZCER 1981) because these words are compiled from the high frequency words in early learning-to-read texts. Scores show the extent to which students are accumulating an early reading vocabulary.

TABLE 5. Comparison of PLP and non-PLP students' Word Test scores.

Word Test score (15)	PLP	non-PLP
> 10	35.6%	26.3%
0 - 10	64.4%	73.7%
> 14	10.9%	5.4%
Mean	7.91	6.04
s.d.	4.86	4.82
Range	0 - 15	0 - 15

Chi-square $p > .0001$

These data record a similar finding to the previous assessment results. More students who attended a PLP preschool achieved higher scores overall than their peers. This is shown in graph 5 by the discernably accelerated trajectory for the PLP students. Their increased experience of reading early learning-to-read texts gave them an advantage when faced with this list of 15 high frequency words out of context.



5. Word Test percentage scores after one year in school.

Writing Vocabulary

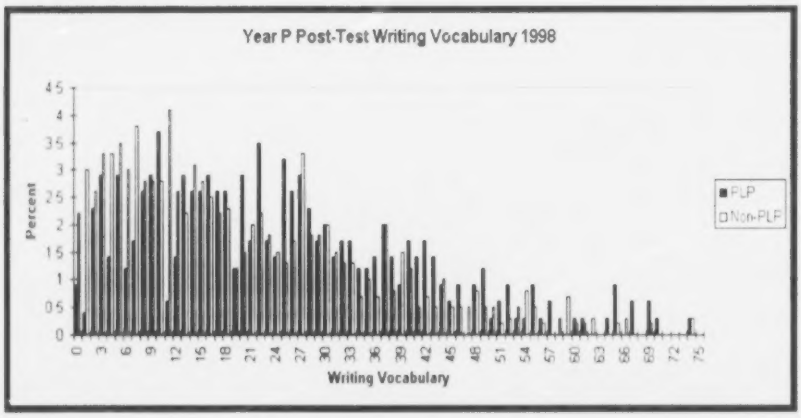
Students were encouraged to write down all the words they know, starting with their name. Each student was given up to 10 minutes to complete this task. Clay (1993) suggests that low scores are associated with programs which a) provide few opportunities to write, and b) encourage writing but accept only invented spelling.

TABLE 6. Comparison of PLP and non-PLP students' Writing Vocabulary scores.

Writing Vocabulary score	PLP	non-PLP
> 10	76.1%	66.9%
0 - 10	23.9%	33.1%
> 40	16.1%	11.1%
Mean	24.2	20.21
s.d.	15.85	15.49
Range	0 - 74	0 - 74

Chi-square $p > .0001$

The enhanced opportunities for writing which the PLP students had experienced appear to have given them an advantage in their confidence to write their own words at the end of one year in primary school. Approximately one third of the non-PLP students wrote less than 10 words in 10 minutes in comparison to one quarter of the PLP students. Graph 6 again illustrates an accelerated trajectory for the PLP students with regard to their writing vocabulary.



6. Writing Vocabulary percentage scores after one year in school.

Burt Word Test.

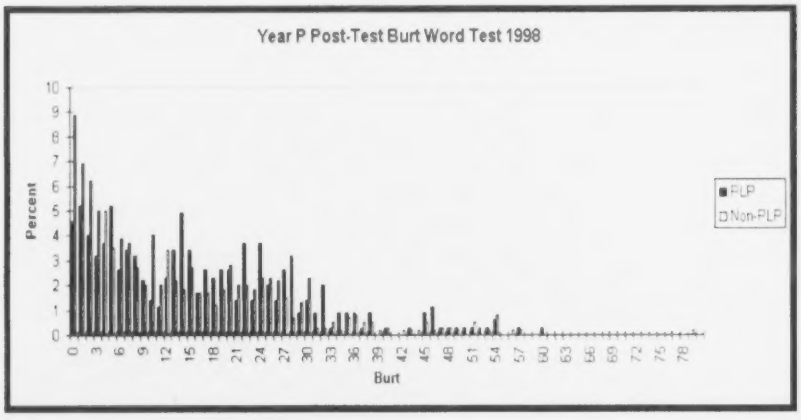
Students were required to read from a list of words of increasing complexity, out of context. Standardised word tests such as this are based on the principle of sampling from the students' reading vocabulary and, therefore, assumes a wide reading experience.

TABLE 7. Comparison of PLP and non-PLP students' Burt Word Test scores.

Burt Word Test score	PLP	non-PLP
0	4.6%	8.9%
0 - 10	38.5%	51.8%
>10	61.5%	48.2%
Mean	16.44	13.53
s.d.	12.86	12.74
Range	0 - 79	0 - 60

Chi-square $p > .0001$

The PLP students were able to read more of these words out of context, with twice as many non-PLP students not being able to read any of the words from this list. This discrepancy is revealed by the data displayed in Graph 7 and emphasises the impact of reading ability which feeds off itself. Those children with accelerated progress may well have opportunities to read more, and to read more widely.



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7. Burt Word Test percentage scores after one year in school.

Running Records of Level Texts.

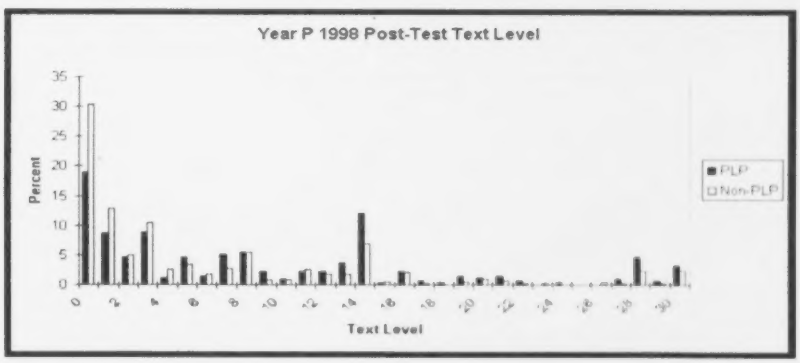
Texts at different difficulty levels 1 - 30, selected by Reading Recovery tutors (DSE Vic 1995), were used to establish the instructional level of text for each student. They were required to independently read each text of successive difficulty until the accuracy score was less than 90 per cent on two consecutive texts. The instructional level text was taken to be the highest over 90 per cent accuracy.

TABLE 8. Comparison of PLP and non-PLP students' Running Record scores.

Text Level (30)	PLP	non-PLP
0	19%	30%
> 5	53.2%	35.6%
0 - 10	62.1%	74.2%
> 10	37.9%	25.8%
Mean	8.8	5.94
s.d.	8.71	7.73
Range	0 - 30	0 - 30

Chi-square $p > .0001$

More than 50 per cent more non-PLP students had not started to read simple texts by the end of their first year in school. At each level of text difficulty displayed in Table 8, the students who had attended PLP preschools were reading at a higher level of text difficulty than their non-PLP peers. Graph 8 illustrates that a distribution of text levels 0 - 14 appears to account for the majority of this total cohort, with marked exceptions from both groups of students who achieved remarkably high standards of text level reading.



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8. Level Texts percentage scores after one year in school.

Discussion

The findings from the final stage of this project are clearly in a positive direction. For every measure, the mean scores for the PLP students are in advance of those for the non-PLP group. Whilst the range for each group was similar on these measures, the trajectory of scores for the PLP students was different . They showed accelerated progress during their first year of schooling on all measures except for *Letter Identification.* This result may well be due to a ceiling effect created by a fixed number of items in the test. However, inspection of Graph 2 does indicate a glimpse of that accelerated trajectory which is so much more obvious in the other graphical displays of these data.

The Chi-square results confirm the statistically significant differences between these two sets of data; those for the PLP students and those for the non-PLP students. However, further analyses of a more robust nature illuminated these differences further. T-tests, Pearson correlations, and Pearson partial correlations were used to assess the effect of the PLP experience on this group of students. The dependent variables in these analyses were the measures of literacy development. The independent variable was whether or not the students attended PLP preschools. In the case of this study, the hypothesis was that students experiencing preschool programs that included literacy experiences within their play activities would achieve accelerated progress in literacy during their first year in school. The Tables below (Table 9, 10, 11) show how this hypothesis is significantly supported.

The t-test procedure (Table 9) examined the extent to which the mean score of the PLP students differs from the mean score of the non-PLP students:

TABLE 9 Comparison of Mean Scores using T-test Procedure

Variable	Non-PLP mean	PLP mean	T-value	Significance
Oral Lang.	22.19	27.70	9.03	>.0001
Word Test	6.04	7.88	5.67	>.0000
Text Level	5.94	8.77	5.05	>.0001
Con ab Print	16.04	17.18	4.26	>.0000
Dictation	23.53	26.40	3.86	>.0001
Writing Voc	20.21	24.13	3.72	>.0002
Burt Wd Test	13.53	16.40	3.32	>.0009
Letter Iden	47.04	48.21	1.70	>.079

Table 9 shows that the mean scores for the PLP students are higher than for scores of the non-PLP students and this difference is statistically significant, except for the measure of Letter Identification which demonstrated a ceiling effect. This finding is repeated in the further two analyses.

In Table 10 below, the Pearson correlation procedure examined the extent to which membership of a group of students (PLP or non-PLP) co-varied with each measure of literacy.

TABLE 10 Pearson Correlation Coefficients for each Measure of Literacy

Variable	Pearson Correlation	No. of cases	Significance
Oral Lang.	0.270	955	>.0001
Word Test	0.181	954	>.0001
Text Level	0.166	962	>.0001
Con ab Print	0.137	953	>.0001
Dictation	0.124	956	>.0001
Writing Voc	0.120	952	>.0002
Burt Wd Test	0.108	946	>.0009
Letter Ident	0.055	957	>.09

Table 10 illustrates a significant correlation between whether or not students experienced literacy within their play activities during their preschool years (except in the case of Letter identification).

However, this analyses did reveal a weak correlation between group membership (PLP or non-PLP) and age on entry to school (.09, sig >.004). Students in the PLP group demonstrated a slight tendency to be older than the students in the non-PLP group. It is, therefore, possible, although unlikely, that it was the age of the student rather than their preschool experiences which differentiated these two groups of students. To test this hypothesis, Pearson partial correlations were calculated in which the effect of age was removed from the correlation between group membership and measures of literacy development. These partial correlations are presented in Table 11 below.

TABLE 11 Partial Correlation with the Effect of Age Removed.

Variable	Partial Correlation	Significance
Oral Lang.	0.259	>.0001
Word Test	0.162	>.0001
Text Level	0.157	>.0001
Con ab Print	0.121	>.0002
Dictation	0.106	>.0013
Writing Voc	0.102	>.002
Burt Wd Test	0.099	>.0026
Letter Iden	0.044	>.1829

Table 11 shows how after the effect of age has been removed, there still remained a significant correlation between PLP group status and measures of literacy development. Numbers of boys in each group may have been a further complicating factor that could have influenced these results. On further inspection these data revealed a significant lack of correlation between sex and membership of group (.02, sig > .57). The t-tests, simple correlations, and partial correlations lead us to conclude, therefore, that the appropriate experience of literacy during the preschool has a significant impact on literact development during the first year of schooling.

Given the research literature referred to earlier in this paper, there are a number of reasons that can be put forward for these impressive results. Importantly, the development of the understandings and practices of this group of preschool professionals was impressive. They increased their provision of authentic resources for literacy, enriched the print-environment of their rooms, and engaged their preschoolers with active involvement and support in literacy experiences through their play. The work of Pickett (1998) and also Nueman and Roskos (1993) illustrate clearly the significance of adult mediation in print-rich play environments. Where these preschool children experienced this kind of support, they were seen to respond more rapidly to the formal, structured literacy curriculum program available to them during their first year in school.

Given what we know about literacy learning; that we learn what we already understand, that we learn from more knowledgeable others, that we learn in appropriate socio-cultural contexts (Raban 1995), then the experiences provided for the PLP students were both relevant and successful. The early stages of development are marked by an awareness or tacit knowledge that may be impossible for the learner to articulate (Clay 1998) and for teachers to observe. During this project we called this *conceptual knowledge* and we identified the school-based literacy curriculum as providing what we termed *item knowledge*. We hypothesised that those children who arrived in school with increased conceptual knowledge would respond more rapidly and successfully to the item knowledge they were exposed to in school settings. The research reported here bears out this belief and gives a clear indication of the nature and role of prior knowledge concerning literacy in the preschool curriculum. As Whitehurst and Lonigan (1998) argue, the acquisition of literacy is best conceptualised as having origins early in the life of a child

We would argue that this access to prior knowledge through opportunities to access concept knowledge is a powerful predictor of success in early school years literacy programs. We are reminded here of the longitudinal study conducted by Taylor and Macdonald (1998) that identifies the life chances of children from disadvanaged homes. At 6 years of age the children in their study who obtained the lowest average reading scores were those whose parents had least education themselves and the lowest income. This combination of poverty and low educational experience rendered these children vulnerable to progress at school. Within these groups in communities generally, therefore, there is even more need for the preschool program to provide and support those opportunities and experiences that will enhance children's awareness of literacy, of the purposes and functions of literacy in a literate community, and of the place of literacy in the lives of themselves and others through their natural play experiences. In addition, preschool teachers need to develop high expectations that children, whatever their background, can take advantage of literacy learning opportunities during their preschool years.

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